

Venous Needle Dislodgement and Access-Bloodline Separation

TOOLKIT

Recommended Bibliography

Regulations/Conditions for Coverage access language:

Centers for Medicare and Medicaid (CMS). (2008). Conditions for coverage for end-stage renal disease facilities; final rule, 70. *Federal Register*, 20370. <https://www.cms.gov/Regulations-and-Guidance/Legislation/CFCsAndCoPs/Downloads/ESRDfinalrule0415.pdf>

“The intent of the new requirement is to have facilities arrive at a middle ground so that the room temperature is at least marginally acceptable to both patients and staff. Patients who continue to feel cold could use coverings or

blankets. Regardless of the room temperature, patients should not be deprived of the ability to use covers or blankets. The dialysis facility may allow patients to bring their own blanket or may opt to provide a cover. In either case, adequate infection control precautions must be taken considering the risk of blood spatter. **Additionally, the access sites and line connections should remain uncovered to allow staff to visually monitor these areas to ensure patient safety.** In response to comments, we have revised § 494.60(c)(2)(i) by removing the phrase “that is comfortable for the majority of its patients” and inserted the word “comfortable” earlier in the sentence. Section § 494.60(c)(2)(i) and § 494.60(c)(2)(ii) now requires a facility to maintain a comfortable temperature within the facility; and make reasonable accommodations for the patients who are not comfortable at this temperature” (p. 20384).

Excerpts of Regulations and Guidance That Apply to VND

TAG NUMBER	REGULATION	INTERPRETIVE GUIDANCE
V148	<p>CDC RR-10 Requirements as Adopted by Reference 42 CFR 494.30 (a)(2) Central Venous Catheters, Including PICCs, Hemodialysis, and Pulmonary Artery Catheters in Adult and Pediatric Patients.</p> <p>I. Surveillance.</p> <p>A. Conduct surveillance...to determine CRBSI rates, monitor trends in those rates, and assist in identifying lapses in infection-control practices.</p> <p>C. Investigate events leading to unexpected life-threatening, or fatal outcomes. This includes any process variation for which a recurrence would likely present an adverse outcome. <i>End CDC Requirements</i></p>	<p>Non-compliance with this requirement should be considered if there is lack of evidence of surveillance for catheter-related infections. A log or another tracking mechanism, such as the Dialysis Module of the National Healthcare Safety Network (NHSN), should be used. Both the surveillance log/database and the patient’s individual medical records should contain detailed information on catheter infections and other adverse events, such as, but not limited to, prolonged bleeding, stenosis/clotting, allergic reactions, pyrogenic reactions, cardiac arrests, hospitalizations, and deaths.</p> <p>Refer to V637 under the Condition: Quality assessment and performance improvement (QAPI).</p>
V405	<p>§ 494.60 Condition: Physical environment.</p> <p>(c) <i>Standard: Patient care environment:</i></p> <p>(2) The dialysis facility must:</p> <p>(i) Maintain a comfortable temperature within the facility; and</p> <p>(ii) Make reasonable accommodations for the patients who are not comfortable at this temperature.</p>	<p>The facility must make reasonable efforts to provide a comfortable environment for patients and staff despite conflicting perceptions of “comfortable.”</p> <p>When cold, some patients find it helpful to use a glove for the hand on their access arm; others find wearing a cap helpful.</p> <p><u>If patients choose to use a blanket or other covering, their vascular access site, bloodline connections, and face must be visible throughout the treatment.</u> A head covering on a patient is acceptable, as are gloves. If you note a problem in this area, refer to V407.</p>

continued on next page

TOOLKIT (continued)

TAG NUMBER	REGULATION	INTERPRETIVE GUIDANCE
V407	(4) Patients must be in view of staff during hemodialysis treatment to ensure patient safety (video surveillance will not meet this requirement).	<p>Each patient, including their face, <u>vascular access site, and bloodline connections, must be able to be seen by a staff member throughout the dialysis treatment.</u></p> <p>Allowing patients to cover access sites and bloodline connections provides an opportunity for accidental needle dislodgement or a line disconnection to go undetected. This dislodgement or disconnection could result in exsanguination and death in minutes.</p>
V456	(5) Be informed about and participate, if desired, in all aspects of his or her care, and be informed of the right to refuse treatment, to discontinue treatment, and to refuse to participate in experimental research.	<p>Patients have the right to know about and participate in their care and treatment to the extent they desire. Self-cannulation may be performed by the patient in any facility upon receiving appropriate training and demonstrating competence, should they so choose. The facility must encourage patient participation in care planning. Examples of ways to promote this participation include, but are not limited to, offering the patient the option to participate in interdisciplinary team care planning or to attend a planning meeting in-person or by teleconference from home. “Chair-side” review of the plan of care is also acceptable, if sufficient privacy can be provided. Patients also have the right to accept or decline to participate in their care.</p> <p>Patients must be notified of changes to their dialysis prescription and the reason for those changes. Patients should be encouraged to disclose any concerns they have with the proposed changes. Patients have the right to refuse the change without fear of discharge. Patients have the right to refuse any aspect of treatment, to refuse to participate in experimental research, and to discontinue their dialysis treatments completely.</p> <p>The facility must have an ongoing program for vascular access monitoring and surveillance for early detection of failure and to allow timely referral of patients for intervention when indications of significant stenosis are present. Patient education should address self-monitoring of the vascular access.</p>
V551	<p>§ 494.80 Condition: Patient assessment. The patient’s vascular access must be monitored to prevent access failure, including monitoring of arteriovenous grafts and fistulae for symptoms of stenosis.</p>	<p>“Monitoring” strategies may include physical examination of the vascular access; observance of changes in adequacy or in pressures measured during dialysis; difficulties in cannulation; or in achieving hemostasis. Precipitating events should also be noted, such as hypotension or hypovolemia. Surveillance strategies include device-based methods, such as access flow measurements, direct or derived static venous pressure ratios, duplex ultrasound, etc.</p> <p>For patients with grafts and fistulae, the medical record should show evidence of periodic monitoring and surveillance of the vascular access for stenosis and signs of impending failure. The documentation of this may be on the dialysis treatment record, progress notes, or on a separate log. A member of the facility staff must review the vascular access monitoring/surveillance documentation to identify adverse trends and take action if indicated.</p> <p>Refer to the Condition for Infection Control at V147 and V148 and the Condition for QAPI at V633, which also cover monitoring and surveillance of vascular accesses.</p>

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TOOLKIT (continued)

TAG NUMBER	REGULATION	INTERPRETIVE GUIDANCE
V585 (Home Dialysis)	<p>§ 494.100 Condition: Care at home. The training must: (3) Be conducted for each home dialysis patient and address the specific needs of the patient in the following areas. (iii) How to detect, report, and manage potential dialysis complications, including water treatment problems.</p>	<p>This Condition applies to those facilities that provide training and support services for any type of home dialysis. This Condition focuses on items that are unique to the home dialysis modality. All of the ESRD Conditions must be met regardless of whether the setting is in-center or at home.</p> <p>Patients on home hemodialysis must be taught to recognize, manage and report such potential complications as vascular access problems (e.g., difficulty with cannulation, a change in bruit or thrill, bleeding), infections, hypertension or hypotension, hyperkalemia, etc.</p> <p>The facility training program should include instruction aimed at enabling patients/helpers to detect, prioritize, and report problems and to ensure they are prepared to recognize and promptly act upon those situations, which could present hazards to patient safety. Training patients on home dialysis and helpers to “handle” medical emergencies that may be anticipated (e.g., syncope, significant blood loss, cardiac events) includes immediate responses/actions and methods for contacting emergency medical systems. Refer to V768.</p> <p>Training for home patients to monitor their own health status should include the use of equipment to monitor heart rate, blood pressure, temperature, and weight; assessment of vascular or peritoneal dialysis access; recognizing adverse signs and symptoms; and when, how, and who to contact if they experience problems with their health or treatment.</p>

Online Resources

VND-Related Guidelines

From Europe:

European Dialysis and Transplant Nurses Association/ European Renal Care Association (EDTNA/ERCA). (2016). *Venous needle dislodgement (VND): How to minimize the risks*. https://vo2k0qci4747qecahf07gktt-wpengine.netdna-ssl.com/wp-content/uploads/2016/10/Edtna_poster_UK-1.pdf

From Australia:

Jose, M.D., Marshall, M.R., Read, G., Lioufas, N., Ling, J., Snelling, P., & Polkinghorne, K.R. (2017). Fatal dialysis vascular access hemorrhage. *American Journal of Kidney Diseases*, 70(4), 570-575

Taping Resources

Clinical Practice Recommendations for Needling of Arteriovenous Fistulae and Grafts for Haemodialysis

British Renal Society Vascular Access Group. (2018). *Clinical practice recommendations for needling of arteriovenous fistulae and grafts for haemodialysis*. <https://vo2k0qci4747qecahf07gktt-wpengine.netdna-ssl.com/wp-content/uploads/2018/09/Clinical-Practice-Recommendations-for-Needling-of-Arteriovenous-Fistulae-and-Grafts-for-Haemodialysis.pdf>

“Tape that covers the needle insertion site needs to be clean, which can be achieved through a number of methods:

- a. Sterile tape as part of the dressing pack used for needle insertion.
- b. Single use rolls of tape for individual patients.

Alternatively, gauze can be used over the needle insertionsite or the needle insertion site can be left exposed to avoid taping directly over this.

Rolls of tape should always be stored in a designated clean area and not in staff members’ pockets.

TOOLKIT (continued)

Following insertion, the needle should be taped either using the chevron method or H technique to prevent needle dislodgement” (British Renal Society, 2018, p. 6, “Recommendation C: Procedural Principles for Good Needle Insertion”).

Image of taping using gauze (British Renal Society, 2018, p. 26).

Image of taping using V method and image of taping using H method (British Renal Society, 2018, p. 27).

deVilliers, A. (2018, October 4). *Single-handed cannulation and chevron taping for solo home HD [blog post]*. <https://homedialysis.org/news-and-research/blog/277-single-handed-touch-cannulation-and-chevron-taping-for-solo-home-hd>

Single-handed cannulation and chevron taping.

Van Waelegem, J.P., Chamney, M.J., Lindley, E., & Pancírová, J. (2008). Venous needle dislodgement: How to minimize the risks. *Journal of Renal Care*, 34(4), 163-168. <https://doi.org/10.1111/j.1755-6686.2008.00047.x>

Chevron taping technique (p. 165)

National Kidney Foundation (NKF) Kidney Disease Outcomes Quality Initiative (KDOQI)

National Kidney Foundation. (2006). *2006 updates: Clinical practice guidelines and recommendations* (taping image, p. 269). https://www.kidney.org/sites/default/files/docs/12-50-0210_jag_dcp_guidelines-hd_oct06_sectiona_ofc.pdf

Taping image (p. 269).

Lok, C.E., Huber, T.S., Lee, T., Shenoy, S., Yevzlin, A.S., Abreo, K., Allon, M., Asif, A., Astor, B.C., Glickman, M.H., Graham, J., Moist, L.M., Rajan, D.K., Roberts, C., Vachharajani, T.J., Valentini, R.P., the National Kidney Foundation. (2020). KDOQI clinical practice guideline for vascular access: 2019 update. *American Journal of Kidney Disease*, 75(4, Suppl. 2), S1-S164. <https://doi.org/10.1053/j.ajkd.2019.12.001>

Taping recommendations are the same as 2006.